

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1: (currently amended): An optical sensing device for detecting optical features of valuable papers, comprising first and second ~~photocouplers~~ photocouplers (5 and 6 or 9 and 10) positioned in the vicinity of and on the opposite sides of a passageway (13) for guiding the valuable paper (64),

each of the first and second photocouplers (5 and 6 or 9 and 10) having a light emitting element (20, 22, 30, 32) for emitting a light, and a light receiving element (21, 23, 31, 33) in the proximity to the light emitting element (20, 22, 30, 32) for selectively receiving the light from the light emitting element (20, 22, 30, 32).

Claim 2 (currently amended): The optical sensing device of claim 1, wherein the first photocoupler (5 or 9) comprises a first light emitting element (20 or 30) for emitting a first light of a first wavelength and a first light receiving element (21 or 31) adjacent to said first light emitting element (20 or 30); said second photocoupler (6 or 10) comprises a second light

emitting element (22 or 32) for emitting a second light of a second wavelength different from the first wavelength of the first light emitted from the first light emitting element (20 or 30), and a second light receiving element (23 or 33) adjacent to said second light emitting element (22 or 32);

the first light receiving element (21 or 31) can receive the first light reflected on the valuable paper (64) and the second light that penetrates the valuable paper (64) from the second light emitting element (22 or 32);

the second light receiving element (23 or 31 33) can receive the second light reflected on the valuable paper (64) and the first light that penetrates the valuable paper (64) from the first light emitting element (20 or 30).

Claim 3 (original): The optical sensing device of claim 2, wherein one of the first and second lights is an infrared ray, and

the other of the first and second lights has a wavelength other than wavelength of infrared ray.

Claim 4 (original): The optical sensing device of claim 3, wherein the first and second lights are selected from the group consisting of red, green, yellow, blue and ultraviolet lights.

Claim 5 (currently amended) : The optical sensing device of any one of claims 1 to 4, wherein the first light emitting element (20 or 30) is apposed to the first light receiving element (21 or 31) transversely to the transported direction of the valuable paper (64) and in alignment with the second light emitting receiving element ~~(22 or 32)~~ (23 or 33) across the passageway (13); and

the second light emitting element (22 or 32) is apposed to the second light receiving element (23 or 33) transversely to the transported direction of the valuable paper (64) in alignment with the first light emitting receiving element ~~(20 or 30)~~ (21 or 31) across the passageway (13).

Claim 6 (original) : The optical sensing device of claim 2, wherein said first and second light emitting elements (20 or 30, 22 or 32) are turned on at the different points in time from each other to prevent the first and second light receiving elements (21 or 31, 23 or 33) from simultaneously receiving the first and second lights.

Claim 7 (original) : The optical sensing device of claim 1, wherein the first photocoupler (5 or 9) is disposed in vertically spaced relation to the second photocoupler (6 or 10) across the passageway (13).

Claim 8 (currently amended) : An optical sensing device for detecting optical features of valuable papers, comprising first and second fourfold assemblies longitudinally arranged before and behind along a passageway (13) for guiding the transported valuable paper (64),

    said first fourfold element comprising first and second photocouplers (5 and 6) positioned in the vicinity of and on the opposite sides of the passageway (13), and

    said second fourfold element comprising third and fourth photocouplers (9 and 10) positioned in the vicinity of and on the opposite sides of the passageway (13),

    each of said first, second, third and fourth photocouplers (5,6,9,10) having a light emitting element (20, 22, 30, 32) for emitting a light, and a light receiving element (21, 23, 31, 33) for selectively receiving the light from the light emitting element (20, 22, 30, 32) and reflected on or penetrating the valuable paper (64).

Claim 9 (currently amended) : The optical sensing device of claim 8, wherein the first photocoupler and third photocouplers (5 and 9) are arranged in vertically spaced relation to and in alignment to respectively the second and fourth photocouplers (6 and 10).

Claim 10 (currently amended): The optical sensing device of claim 8 or 9, wherein said first photocoupler (5) comprises a first light emitting element ~~(20 or 30)~~ (20) for emitting a first light and a first light receiving element ~~(21 or 31)~~ (21) adjacent to said first light emitting element ~~(20 or 30)~~ (20);

    said second photocoupler (6) comprises a second light emitting element (22) for emitting a second light of the wavelength different from that of the first light, and a second light receiving element (23) adjacent to said second light emitting element (22);

    the first light receiving element (21) can receive the first light reflected on the valuable paper (64) and the second light penetrating the valuable paper (64);

    the second light receiving element (23) can receive the second light reflected on the valuable paper (64) and the first light penetrating the valuable paper (64),

    said third photocoupler (9) comprises a third light emitting element (30) for emitting a third light and a third light receiving element (31) adjacent to the third light emitting element (30),

    said fourth photocoupler (10) comprises a fourth light emitting element (32) for emitting a fourth light of the wavelength different from that of the third light, and a fourth

light receiving element (33) adjacent to the fourth light emitting element (32),

the third light receiving element (31) can receive the third light reflected on the valuable paper (64) and the fourth light penetrating the valuable paper (64),

the fourth light receiving element (33) can receive the fourth light reflected on the valuable paper (64) and the third light penetrating the valuable paper (64).

Claim 11 (currently amended): An optical sensing device for detecting optical features of valuable papers, comprising a triplex assembly positioned in the vicinity of a passageway (13) for guiding the transported valuable paper (64),

the triplex assembly comprising two light emitting elements for emitting first and second lights of the different wavelength from each other, and a light receiving element for receiving the first and second lights reflected on the valuable paper (64) at the different points in time, and a case (91) for accommodating the light emitting elements and light receiving element in the fixed positions.

Claim 12 (original): The optical sensing device of claim 11, wherein the light emitting elements are positioned on the opposite sides of the light receiving element and in a line.

Claim 13 (original) : The optical sensing device of claim 11, wherein the light emitting elements and light receiving element are positioned at vertexes of a plane triangle.

Claim 14 (currently amended) : An optical sensing device for detecting optical features of valuable papers, comprising first and second triplex assemblies positioned on the opposite sides of a passageway (13) for guiding the transported valuable paper (64),

each of the first and second triplex assemblies including at least a light emitting element for emitting a light and at least a light receiving element for receiving the light that is emitted from the light emitting element and reflected on or penetrating the valuable paper (64).

Claim 15 (original) : The optical sensing device of claim 14, wherein one of the first and second triplex assemblies has first and second light emitting elements for emitting first and second lights and a first light receiving element adjacent to the first and second light emitting elements,

the other of the first and second triplex assemblies has a third light emitting element for emitting a third light and second and third light receiving elements adjacent to the third

light emitting element.

Claim 16 (currently amended): The optical sensing device of claim 15, wherein the first light receiving element receives the first and second lights reflected on the valuable paper (64) and the third light penetrating the valuable paper (64),

the second light receiving element receives the first light penetrating the valuable paper (64) and the third light reflected on the valuable paper (64),

the third light receiving element receives the second light penetrating the valuable paper (64) and the third light reflected on the valuable paper (64).

Claim 17 (original): The optical sensing device of claim 15, wherein at least one of the first, second and third light emitting elements produces infrared ray.

Claim 18 (original): The optical sensing device of claim 15, wherein the first, second and third light emitting elements are turned on at the different points in time.

Claim 19 (original): The optical sensing device of claim 15, wherein the first, second and third light emitting elements produce respectively first, second and third lights of the

different wavelength.

Claim 20 (new): An optical sensing device for detecting optical features of valuable papers, comprising first and second photocouplers (5 or 9, 6 or 10) positioned in the vicinity of and on the opposite sides of a passageway (13) for guiding the transported valuable paper (64);

    said first photocoupler (5 or 9) comprises a first light emitting element (20 or 30) for emitting a first light of a first wavelength, and a first light receiving element (21 or 31) adjacent to said first light emitting element (20 or 30);

    said second photocoupler (6 or 10) comprises a second light emitting element (22 or 32) for emitting a second light of a second wavelength different from the first wavelength, and a second light receiving element (23 or 33) adjacent to said second light emitting element (22 or 32);

    the first light emitting element (20 or 30) is apposed to the first light receiving element (21 or 31) transversely to the transported direction of the valuable paper (64) and in alignment with the second light receiving element (23 or 33) across the passageway (13);

    the second light emitting element (22 or 32) is apposed to the second light receiving element (23 or 33) transversely to the transported direction of the valuable paper (64) in

alignment with the first light receiving element (21 or 31) across the passageway (13);

the first light receiving element (21 or 31) receives the first light reflected on the valuable paper (64) from the first light emitting element (20 or 30) and the second light that penetrates the valuable paper (64) from the second light emitting element (22 or 32);

the second light receiving element (23 or 33) receives the second light reflected on the valuable paper (64) from the second light emitting element (22 or 32) and the first light that penetrates the valuable paper (64) from the first light emitting element (20 or 30);

one of the first and second lights is an infrared ray, and the other of the first and second lights has a wavelength other than wavelength of infrared ray; and

the first and second light emitting elements (20 or 30, 22 or 32) are turned on at the different points in time from each other.

Claim 21 (new): An optical sensing device for detecting optical features of valuable papers, comprising first and second fourfold assemblies longitudinally arranged before and behind along a passageway (13) for guiding the transported valuable paper (64);

said first fourfold element comprising first and second photocouplers (5 and 6) positioned in the vicinity of and on the opposite sides of the passageway (13);

said second fourfold element comprising third and fourth photocouplers (9 and 10) positioned in the vicinity of and on the opposite sides of the passageway (13);

the first and third photocouplers (5 and 9) are arranged in vertically spaced relation to and in alignment to respectively the second and fourth photocouplers (6 and 10);

the first photocoupler (5) comprises a first light emitting element (20) for emitting a first light, and a first light receiving element (21) adjacent to said first light emitting element (20);

the second photocoupler (6) comprises a second light emitting element (22) for emitting a second light of the wavelength different from that of the first light, and a second light receiving element (23) adjacent to said second light emitting element (22);

the third photocoupler (9) comprises a third light emitting element (30) for emitting a third light, and a third light receiving element (31) adjacent to the third light emitting element (30);

the fourth photocoupler (10) comprises a fourth light emitting element (32) for emitting a fourth light of the

wavelength different from that of the third light, and a fourth light receiving element (33) adjacent to the fourth light emitting element (32);

the first light receiving element (21) receives the first light reflected on the valuable paper (64) from the first light emitting element (20) and the second light penetrating the valuable paper (64) from the second light emitting element (22);

the second light receiving element (23) receives the second light reflected on the valuable paper (64) from the second light emitting element (22) and the first light penetrating the valuable paper (64) from the first light emitting element (20);

the third light receiving element (31) receives the third light reflected on the valuable paper (64) from the third light emitting element (30) and the fourth light penetrating the valuable paper (64) from the fourth light emitting element (32);

the fourth light receiving element (33) receives the fourth light reflected on the valuable paper (64) from the fourth light emitting element (32) and the third light penetrating the valuable paper (64) from the third light emitting element (30);

one of the first and second lights and one of the third and fourth lights are infrared rays, and the other of the first and second lights and the other of the third and fourth lights have the wavelength other than wavelength of infrared ray;

the first and second light emitting elements (20, 22) are

turned on at the different points in time from each other; the third and fourth light emitting elements (30, 32) are turned on at the different points in time from each other.

Claim 22 (new): The optical sensing device of claim 21, wherein the other of the first and second lights has the wavelength other than wavelength of the other of the third and fourth lights.

Claim 23 (new): An optical sensing device for detecting optical features of valuable papers, comprising first and second triplex assemblies positioned in the vicinity of and on the opposite sides of a passageway (13) for guiding the transported valuable paper (64);

one of the first and second triplex assemblies has first and second light emitting elements (24 or 34) for emitting first and second lights, and a first light receiving element (25 or 35) adjacent to the first and second light emitting elements (24 or 34);

the other of the first and second triplex assemblies has a third light emitting element (26 or 36) for emitting a third light, and second and third light receiving elements (27 or 37) adjacent to the third light emitting element (26 or 36);

the first light receiving element (25 or 35) receives the

first and second lights reflected on the valuable paper (64) from the first and second light emitting element (24 or 34) and the third light that penetrates the valuable paper (64) from the third light emitting element (26 or 36);

the second light receiving element (27 or 37) receives the third light reflected on the valuable paper (64) from the third light emitting element (26 or 36) and the first light that penetrates the valuable paper (64) from the first light emitting element (24 or 34);

the third light receiving element (27 or 37) receives the third light reflected on the valuable paper (64) from the third light emitting element (26 or 36) and the second light that penetrates the valuable paper (64) from the second light emitting element (24 or 34);

at least one of the first, second and third light emitting elements (24 or 34, 26 or 36) produces infrared ray;

the first, second and third light emitting elements (24 or 34, 26 or 36) are turned on at the different points in time.

Claim 24 (new): The optical sensing device of claim 23, wherein the first, second and third light emitting elements (24 or 34, 26 or 36) produce respectively first, second and third lights of the different wavelength.

Claim 25 (new) : The optical sensing device of any one of claims 20 to 24, wherein infrared ray received by the receiving element provides reference or basic light data for detecting a light amount level of light other than infrared ray.

Claim 26 (new) : The optical sensing device of any one of claims 20 to 25, wherein the light other than infrared ray is selected from the group consisting of red, green, yellow, blue and ultraviolet lights.